

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

To:

MILLER, Mary, L.
 Needle & Rosenberg, P.C.
 Suite 1200
 127 Peachtree Street, N.E.
 Atlanta, GA 30303-1811
 ETATS-UNIS D'AMERIQUE

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

Date of mailing (day/month/year) 30 August 2001 (30.08.01)	From the INTERNATIONAL BUREAU		
Applicant's or agent's file reference 14114.0353P1	To:		
International application No. PCT/US00/07828	MILLER, Mary, L. Needle & Rosenberg, P.C. Suite 1200 127 Peachtree Street, N.E. Atlanta, GA 30303-1811 ETATS-UNIS D'AMERIQUE		
IMPORTANT NOTIFICATION			
International filing date (day/month/year) 24 March 2000 (24.03.00)			

1. The following indications appeared on record concerning:

the applicant the inventor the agent the common representative

Name and Address THE GOVERNMENT OF THE UNITED STATES OF AMERICA as represented by THE SECRETARY OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES Centers for Disease Control and Prevention 255 East Paces Ferry Road - N.E. Room 500 Atlanta, GA 30333 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

the person the name the address the nationality the residence

Name and Address THE GOVERNMENT OF THE UNITED STATES OF AMERICA as represented by THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES Centers for Disease Control and Prevention Technology Transfer Office 1600 Clifton Road, N.E. MS E-67 Atlanta, GA 30333 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Beatrix LARGO Telephone No.: (41-22) 338.83.38
---	---

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION
(PCT Rule 61.2)

Date of mailing (day/month/year) 07 November 2000 (07.11.00)	To: Commissioner US Department of Commerce United States Patent and Trademark Office, PCT 2011 South Clark Place Room CP2/5C24 Arlington, VA 22202 ETATS-UNIS D'AMERIQUE in its capacity as elected Office
International application No. PCT/US00/07828	Applicant's or agent's file reference 68018
International filing date (day/month/year) 24 March 2000 (24.03.00)	Priority date (day/month/year) 31 March 1999 (31.03.99)
Applicant OBERSTE, Steven et al	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

17 October 2000 (17.10.00)

in a notice effecting later election filed with the International Bureau on:

2. The election was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Charlotte ENGER Telephone No.: (41-22) 338.83.38
---	---

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 68018	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/07828	International filing date (day/month/year) 24/03/2000	(Earliest) Priority Date (day/month/year) 31/03/1999
Applicant		

THE GOVERNMENT OF THE UNITED STATES OF AMERICA as

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. Certain claims were found unsearchable (See Box I).

3. Unity of invention is lacking (see Box II).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

as suggested by the applicant.

because the applicant failed to suggest a figure.

because this figure better characterizes the invention.

None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/07828

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/70

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 14611 A (US HEALTH ;KILPATRICK DAVID (US)) 9 April 1998 (1998-04-09)	1-6, 9-17, 20-39, 43,44 7,8,18, 19, 40-42, 45,46
A	figures 1,2 ---	-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- °A° document defining the general state of the art which is not considered to be of particular relevance
- °E° earlier document but published on or after the international filing date
- °L° document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- °O° document referring to an oral disclosure, use, exhibition or other means
- °P° document published prior to the international filing date but later than the priority date claimed

- °T° later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- °Y° document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- °Z° document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- °&° document member of the same patent family

Date of the actual completion of the international search

12 July 2001

Date of mailing of the international search report

24/07/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

van Klompenburg, W

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/07828

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	OBERSTE ET AL.: "Molecular evolution of the human enteroviruses: correlation of serotype with VP1 sequence and application to picornavirus classification" JOURNAL OF VIROLOGY, vol. 73, no. 3, 11 February 1999 (1999-02-11), pages 1941-1948, XP002171810 figures 1,3; table 2	1-6, 9-17, 20-39, 43,44
A	---	7,8,18, 19, 40-42, 45,46
P,X	OBERSTE ET AL.: "Typing of human enteroviruses by partial sequencing of VP1" JOURNAL OF CLINICAL MICROBIOLOGY, vol. 37, no. 5, May 1999 (1999-05), pages 1288-1293, XP002171811 abstract; figures 1,2; table 1	1-5, 9-16, 20-39, 43,44
P,X	WO 99 53097 A (US HEALTH ;KILPATRICK DAVID R (US)) 21 October 1999 (1999-10-21) claims 1-6; examples 1-3; tables 1-5	1-5, 9-16, 20-39, 43,44

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

5/US 00/07828

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 9814611	A 09-04-1998	AU 4663997	A 24-04-1998	EP 0932702 A 04-08-1999
		JP 2001501822	T 13-02-2001	US 6168917 B 02-01-2001
WO 9953097	A 21-10-1999	AU 3383799	A 01-11-1999	

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(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

TECH CENTER 1600/2900
9/93 7862

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 October 2000 (05.10.2000)

PCT

(10) International Publication Number
WO 00/58524 A3

(51) International Patent Classification⁷: C12Q 1/70

(74) Agent: MILLER, Mary, L.; Needle & Rosenberg, P.C.
Suite 1200, 127 Peachtree Street, N.E., Atlanta, GA 30303-
1811 (US).

(21) International Application Number: PCT/US00/07828

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE,
DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,
TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(22) International Filing Date: 24 March 2000 (24.03.2000)

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent
(AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent
(AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,
MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GW, ML, MR, NE, SN, TD, TG).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/127,464 31 March 1999 (31.03.1999) US

(71) Applicant (for all designated States except US): THE
GOVERNMENT OF THE UNITED STATES OF
AMERICA as represented by THE SECRETARY, DE-
PARTMENT OF HEALTH AND HUMAN SERVICES
[US/US]; Centers for Disease Control and Prevention,
Technology Transfer Office, 1600 Clifton Road, N.E. MS
E-67, Atlanta, GA 30333 (US).

(72) Inventors; and
(75) Inventors/Applicants (for US only): OBERSTE, Steven
[US/US]; 5110 Sunset Maple Trail, Lilburn, GA 30047
(US). MAHER, Kaija [US/US]; 3014 Silvapine Trail,
Atlanta, GA 30345 (US). KILPATRICK, David, R.
[US/US]; 1095 Fulton Court, Norcross, GA 30093-4041
(US). PALLANSCH, Mark, A. [US/US]; 4749 Mockernut
Court, Lilburn, GA 30047 (US).

Published:
— with international search report

(88) Date of publication of the international search report:
2 May 2002

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

WO 00/58524 A3

(54) Title: TYPING OF HUMAN ENTEROVIRUSES

(57) Abstract: The present invention discloses a method for detecting the presence of an enterovirus in a clinical sample. The invention additionally discloses a method for typing an enterovirus in a clinical sample. Both methods employ a set of primer oligonucleotides for reverse transcription and amplification that hybridize to conserved regions of the enterovirus genome, and that provide amplicons that include significant portions of the VP1 region that are characteristic of the various serotypes. In the typing method, the invention further provides a database consisting of nucleotide sequences from prototypical enteroviral serotypes, which is used to type the clinical sample by comparing the sequence of its amplicon with each prototypical sequence in the database. The invention additionally provides mixtures of primer oligonucleotides, and a kit for use in conducting the typing method that includes a mixture of the primer oligonucleotides.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
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DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/07828

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/70

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JUN 03 2002

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q

TECH CENTER 1600/2900

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	figures 1,2 --- -/-	7,8,18, 19, 40-42, 45,46



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- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority, claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

12 July 2001

Date of mailing of the international search report

24/07/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel: (+31-70) 340-2040, Tx. 31 651 epo nl
Fax: (+31-70) 340-3016

Authorized officer

van Klompenburg, W

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/07828

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/07828

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 9814611	A 09-04-1998	AU 4663997	A	24-04-1998
		EP 0932702	A	04-08-1999
		JP 2001501822	T	13-02-2001
		US 6168917	B	02-01-2001
WO 9953097	A 21-10-1999	AU 3383799	A	01-11-1999

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JUL 25 2001

NEEDLE & ROSENBERG

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

MILLER, Mary, L.
Needle & Rosenberg, P.C.
Suite 1200
127 Peachtree Street, N.E.
Atlanta, GA 30303-1811
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year)	17 July 2001 (17.07.01)
Applicant's or agent's file reference	14114.0353P1
International application No.	PCT/US00/07828

IMPORTANT NOTIFICATION
International filing date (day/month/year)
24 March 2000 (24.03.00)

1. The following indications appeared on record concerning:					
<input type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input checked="" type="checkbox"/> the agent <input type="checkbox"/> the common representative					
Name and Address SAMPLES, Kenneth, H. Fitch, Even, Tabin & Flannery Suite 1600 120 South LaSalle Street Chicago, IL 60603 United States of America		State of Nationality		State of Residence	
		Telephone No.			
		312 577 7000			
		Facsimile No.			
		312 577 7007			
Name and Address MILLER, Mary, L. Needle & Rosenberg, P.C. Suite 1200 127 Peachtree Street, N.E. Atlanta, GA 30303-1811 United States of America		Teleprinter No.			
		DOCKETED			
		By <i>MNW</i>		Date <i>25/01</i>	Telephone No.
		Reviewed <i>new 8/2001</i>		Name/Date	312 577 7000 (404) 688-0770
					Facsimile No.
			(404) 688-9880	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:					
<input checked="" type="checkbox"/> the person <input checked="" type="checkbox"/> the name <input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence					
Name and Address SAMPLES, Kenneth, H. Fitch, Even, Tabin & Flannery Suite 1600 120 South LaSalle Street Chicago, IL 60603 United States of America		State of Nationality		State of Residence	
		Telephone No.			
		312 577 7000 (404) 688-0770			
		Facsimile No.			
		(404) 688-9880			
3. Further observations, if necessary: Please also note the new agent's file reference.					
4. A copy of this notification has been sent to:					
<input checked="" type="checkbox"/> the receiving Office <input type="checkbox"/> the International Searching Authority <input checked="" type="checkbox"/> the International Preliminary Examining Authority		<input type="checkbox"/> the designated Offices concerned <input checked="" type="checkbox"/> the elected Offices concerned <input checked="" type="checkbox"/> other: SAMPLES, Kenneth, H.			

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer F. Baechler
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PATENT COOPERATION TREATY

SEP 11 2001

NEEDLE & ROSENBERG

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)Date of mailing (day/month/year)
30 August 2001 (30.08.01)

From the INTERNATIONAL BUREAU

To:

MILLER, Mary, L.
Needle & Rosenberg, P.C.
Suite 1200
127 Peachtree Street, N.E.
Atlanta, GA 30303-1811
ETATS-UNIS D'AMERIQUEApplicant's or agent's file reference
14114.0353P1

IMPORTANT NOTIFICATION

International application No.
PCT/US00/07828International filing date (day/month/year)
24 March 2000 (24.03.00)

1. The following indications appeared on record concerning:

 the applicant the inventor the agent the common representative

Name and Address

THE GOVERNMENT OF THE UNITED
STATES OF AMERICA as represented
by THE SECRETARY OF THE DEPARTMENT
OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and
Prevention
255 East Paces Ferry Road - N.E. Room 500
Atlanta, GA 30333
United States of America

State of Nationality

US

State of Residence

US

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

 the person the name the address the nationality the residence

Name and Address

THE GOVERNMENT OF THE UNITED
STATES OF AMERICA as represented
by THE SECRETARY, DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
Technology Transfer Office
1600 Clifton Road, N.E. MS E-67
Atlanta, GA 30333
United States of America

State of Nationality

US

State of Residence

US

Telephone No.

Facsimile No.

Teleprinter No. DOCKETED

By *JMW*Date *9/21/01*

3. Further observations, if necessary:

Reviewed *JMW 9/21/01*

Name/Date

4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Beatrix LARGO

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

REC'D 30 AUG 2001

WPO

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

14

Applicant's or agent's file reference 68018/6314	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/07828	International filing date (day/month/year) 24/03/2000	Priority date (day/month/year) 31/03/1999
International Patent Classification (IPC) or national classification and IPC C12Q1/70		
<p>Applicant THE GOVERNMENT OF THE UNITED STATES OF AM...et al.</p> <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p> <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input checked="" type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application 		

Date of submission of the demand 17/10/2000	Date of completion of this report 27.08.2001
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Wieser, M Telephone No. +49 89 2399 8434



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/07828

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-47,49-79 as originally filed

Claims, No.:

1-46 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

Sequence listing part of the description, pages:

49-79, as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/07828

the description, pages:

the claims, Nos.:

the drawings, sheets:

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 6-8,17-19,40-42,45,46
No: Claims 1-5,9-16,20-39,43,44

Inventive step (IS) Yes: Claims 6-8,17-19,40-42,45,46
No: Claims 1-5,9-16,20-39,43,44

Industrial applicability (IA) Yes: Claims 1-46
No: Claims

**2. Citations and explanations
see separate sheet**

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

see separate sheet

Section V

D1: WO 98 14611 A (US HEALTH ;KILPATRICK DAVID (US)) 9 April 1998

D2: OBERSTE ET AL.: 'Molecular evolution of the human enteroviruses: correlation of serotype with VP1 sequence and application to picornavirus classification' JOURNAL OF VIROLOGY, vol. 73, no. 3, 11 February 1999 (electronic publication date as provided by Medline), pages 1941-1948, XP002171810

1. Claims 1 -46 refer to methods for detecting and typing an enterovirus in a clinical sample, to oligonucleotide primers for use in said methods and to kits containing said primers.
2. D1 and D2, both from the authors of the present application, refer to the same subject-matter. Claims 1-5,9-16,20-39,43 and 44 are anticipated by the disclosure in D1 (see table 1 [primers 1A, 5S, 43A and 61S], figures 1 and 2) and D2 (see table 2 [primers 011,012 and 040], figures 1 and 3).

These claims are not novel and do not meet the requirements of Article 33(2) PCT.

3. The subject-matter of claims 6-8,17-19,40-42,45 and 46 is distinguished from the closest state of the art by oligonucleotide primers not disclosed in D1 or D2. The problem to be solved by these claims is considered to be the provision of an alternative method to detect and type an enterovirus.

Since neither D1 nor D2 contain any information that would allow a skilled person to arrive at the subject-matter of claims 6-8,17-19,40-42,45 and 46 in an obvious way, the claims are considered to be based on an inventive concept and meet the requirements of Article 33(3) PCT).

4. The claimed priority date of the present application, 31.03.1999, is valid. Journal of Clinical Microbiology, vol.37, no.5, May 1999, pages 1288-93, does not belong to the state of the art.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/07828

Section VI

Certain published documents (Rule 70.10)

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO-A-99/53 097	21.10.1999	06.04.1999	15.04.1998

Should the present application be entered into the regional phase, the above document could be relevant to the question of novelty.

PATENT COOPERATION TREATY

FAX: 404 688 9886
PCTFrom the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

MILLER, Mary L.
NEEDLE & ROSENBERG P.C.
127 Peachtree Street, N.E.
Suite 1200
Atlanta, GA 30303-1811
ETATS-UNIS D'AMERIQUE

MLM

COMMUNICATION IN CASES FOR WHICH
NO OTHER FORM IS APPLICABLE

RECEIVED
U.S. PATENT & TRADEMARK OFFICE
SEARCHED
SERIALIZED
INDEXED
21.01

Date of mailing
(day/month/year)

21.09.01

Applicant's or agent's file reference 68018/6314 1414.0353	REPLY DUE See paragraph 1 below
International application No. PCT/US 00/07828	International filing date (day/month/year) 24/03/2000
Applicant THE GOVERNMENT OF THE UNITED STATES OF AM...et al.	

1. REPLY DUE within _____, months/days from the above date of mailing

RECEIVED

SEP 21 2001

2. COMMUNICATION:

NEEDLE & ROSENBERG

Please find herewith enclosed the
International Preliminary Examination
Report which had been sent
erroneously to the old representative.
Please apologize for the inconvenience
caused.

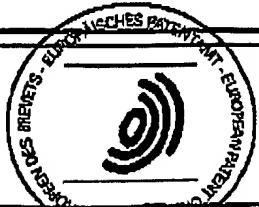
Name and mailing address of the IPEA/



European Patent Office
D-80298 Munich
Tel. (+49-89) 2399-0, Tx: 523656 epmu d
Fax: (+49-89) 2399-4465

Authorized officer:

Michela DiGiusto



PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

SAMPLES, Kenneth H.
FITCH, EVEN, TABIN & FLANNERY
120 South LaSalle Street
Suite 1600
Chicago, IL 60603
ETATS-UNIS D'AMERIQUE

PCT

NOTIFICATION CONCERNING INFORMAL
COMMUNICATIONS WITH THE APPLICANT

(PCT Rule 66.6)

Date of mailing
(day/month/year) 27.08.2001

Applicant's or agent's file reference 68018/6314	TRANSMITTAL FOR INFORMATION
International application no. PCT/US00/07828	International filing date (day/month/year) 24/03/2000
Applicant THE GOVERNMENT OF THE UNITED STATES OF AM...et al.	

An informal communication took place on 23/08/2001, between the International Preliminary Examining Authority and the applicant / the agent.

A copy of the note on that communication (Form PCT/IPEA/428) is herewith transmitted for your information.

Name and mailing address of the international preliminary examining authority European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Digiusta, M Telephone No. +49 89 2399-8162
--	---



Vertrag über die internationale Zusammenarbeit auf dem Gebiet des Patentwesens
Patent Cooperation Treaty
Traité de coopération en matière de brevets

PCT

Application No.:

PCT/US00/07828

Note on an informal communication by telephone with the Applicant

A copy of this note is being sent to the Applicant for information

Participants

Agent: B. Becker

Examiner(s): M. Wieser

Summary of the communication

The Applicant was contacted to apologize that the authority in charge of the International preliminary examination was not able to produce the IPER within 28 months from the claimed priority date. The Applicant preferred to receive the IPER immediately, without a first written opinion.

23/08/2001

.....
Date (day / month / year)

M. Wieser

.....
Authorized officer of IPEA



Fax: +49 89 2399 - 4465

Tel. +49 89 2399-8162

Form PCT/IPEA/416 (July 1992)

PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 68018/6314	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US00/07828	International filing date (day/month/year) 24/03/2000	Priority date (day/month/year) 31/03/1999

International Patent Classification (IPC) or national classification and IPC
C12Q1/70

Applicant

THE GOVERNMENT OF THE UNITED STATES OF AM...et al.

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 17/10/2000	Date of completion of this report 27.08.2001
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d	Authorized officer Wieser, M



Fax: +49 89 2399 - 4465

Telephone No. +49 89 2399 8434

Form PCT/IPEA/409 (cover sheet) (January 1994)

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/07828

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):
Description, pages:

1-47,49-79 as originally filed

Claims, No.:

1-46 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

Sequence listing part of the description, pages:

49-79, as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the International application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/07828

the description, pages:
 the claims, Nos.:
 the drawings, sheets:

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, Inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Yes:	Claims 6-8,17-19,40-42,45,46
	No:	Claims 1-5,9-16,20-39,43,44
Inventive step (IS)	Yes:	Claims 6-8,17-19,40-42,45,46
	No:	Claims 1-5,9-16,20-39,43,44

Industrial applicability (IA) Yes: Claims 1-46
No: Claims

**2. Citations and explanations
see separate sheet****VI. Certain documents cited****1. Certain published documents (Rule 70.10)**

and / or

2. Non-written disclosures (Rule 70.9)

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/07828

Section V

D1: WO 98 14611 A (US HEALTH ;KILPATRICK DAVID (US)) 9 April 1998

D2: OBERSTE ET AL.: 'Molecular evolution of the human enteroviruses: correlation of serotype with VP1 sequence and application to picornavirus classification' JOURNAL OF VIROLOGY, vol. 73, no. 3, 11 February 1999 (electronic publication date as provided by Medline), pages 1941-1948, XP002171810

1. Claims 1 -46 refer to methods for detecting and typing an enterovirus in a clinical sample, to oligonucleotide primers for use in said methods and to kits containing said primers.
2. D1 and D2, both from the authors of the present application, refer to the same subject-matter. Claims 1-5,9-16,20-39,43 and 44 are anticipated by the disclosure in D1 (see table 1 [primers 1A, 5S, 43A and 61S], figures 1 and 2) and D2 (see table 2 [primers 011,012 and 040], figures 1 and 3).

These claims are not novel and do not meet the requirements of Article 33(2) PCT.

3. The subject-matter of claims 6-8,17-19,40-42,45 and 46 is distinguished from the closest state of the art by oligonucleotide primers not disclosed in D1 or D2. The problem to be solved by these claims is considered to be the provision of an alternative method to detect and type an enterovirus.

Since neither D1 nor D2 contain any information that would allow a skilled person to arrive at the subject-matter of claims 6-8,17-19,40-42,45 and 46 in an obvious way, the claims are considered to be based on an inventive concept and meet the requirements of Article 33(3) PCT).

4. The claimed priority date of the present application, 31.03.1999, is valid. Journal of Clinical Microbiology, vol.37, no.5, May 1999, pages 1288-93, does not belong to the state of the art.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/07828

Section VI**Certain published documents (Rule 70.10)**

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO-A-99/53 097	21.10.1999	06.04.1999	15.04.1998

Should the present application be entered into the regional phase, the above document could be relevant to the question of novelty.

PATENT COOPERATION TREATY

RECEIVED

PCT

JUL 25 2001

From the INTERNATIONAL SEARCHING AUTHORITY

To:
 NEEDLE & ROSENBERG, P.C.
 Suite 1200
 Attn. SPRATT, Gwendolyn D.
 The Candler Building
 127 Peachtree Street, N.E.
 Atlanta, GA 30303-1811
 UNITED STATES OF AMERICA

NOTIFICATION OF TRANSMITTAL OF
 THE INTERNATIONAL SEARCH REPORT
 OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing (day/month/year)	
	24/07/2001
Applicant's or agent's file reference 68018 14114.0353 P1	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US 00/07828	International filing date (day/month/year) 24/03/2000
Applicant THE GOVERNMENT OF THE UNITED STATES OF AMERICA as	

1. The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
 34, chemin des Colombettes
 1211 Geneva 20, Switzerland
 Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

MLM/BA/B/TMH

DOCKETED
By <u>MLM</u> Date <u>7/25/01</u>
Reviewed <u>MLM 7/25/01</u>
Name/Date

2. The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

- the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Further action(s): The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Catherine Humbert
---	---

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTE TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 68018	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 07828	International filing date (day/month/year) 24/03/2000	(Earliest) Priority Date (day/month/year) 31/03/1999
Applicant THE GOVERNMENT OF THE UNITED STATES OF AMERICA as		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. **Certain claims were found unsearchable** (See Box I).

3. **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

as suggested by the applicant.

because the applicant failed to suggest a figure.

because this figure better characterizes the invention.

None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/00/07828A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/70

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 14611 A (US HEALTH ;KILPATRICK DAVID (US)) 9 April 1998 (1998-04-09)	1-6, 9-17, 20-39, 43, 44
A	figures 1,2	7, 8, 18, 19, 40-42, 45, 46
	---	-/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority, claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

12 July 2001

Date of mailing of the international search report

24/07/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl
Fax: (+31-70) 340-3016

Authorized officer

van Klompenburg, W

INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	OBERSTE ET AL.: "Molecular evolution of the human enteroviruses: correlation of serotype with VP1 sequence and application to picornavirus classification" JOURNAL OF VIROLOGY, vol. 73, no. 3, 11 February 1999 (1999-02-11), pages 1941-1948, XP002171810 figures 1,3; table 2	1-6, 9-17, 20-39, 43,44
A	---	7,8,18, 19, 40-42, 45,46
P,X	OBERSTE ET AL.: "Typing of human enteroviruses by partial sequencing of VP1" JOURNAL OF CLINICAL MICROBIOLOGY, vol. 37, no. 5, May 1999 (1999-05), pages 1288-1293, XP002171811 abstract; figures 1,2; table 1	1-5, 9-16, 20-39, 43,44
P,X	WO 99 53097 A (US HEALTH ;KILPATRICK DAVID R (US)) 21 October 1999 (1999-10-21) claims 1-6; examples 1-3; tables 1-5	1-5, 9-16, 20-39, 43,44

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO 9814611	A 09-04-1998	AU 4663997	A	24-04-1998
		EP 0932702	A	04-08-1999
		JP 2001501822	T	13-02-2001
		US 6168917	B	02-01-2001
WO 9953097	A 21-10-1999	AU 3383799	A	01-11-1999